Programmes After Market Services
NSD-5 Series Transceivers

7. Service Software Instructions

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WinTesla / Diego User's Guides

General

The name TESLA, when used by Nokia, is an acronym for TEst and Service Locals Application. Tesla for Windows (i.e. WinTesla) is a software package designed to operate in the Microsoft Windows environment. The software package is made of two modules, the WinTesla core module, with drivers and a service software module DLL, and a service software module. The WinTesla module is similar to an operating system for various service modules. In this way many Nokia products can be serviced using one common software package.

NOTE: The WinTesla core module MUST be installed for "any" service module to run.

Service Software

Due to the modular design of Service Software, various generations of Nokia products can be serviced while sharing a similar user interface. The common user interface is explained in the first part of this section, followed by specific module information.

The software can be used to control the phone by entering commands via PC/AT/NT, running Microsoft Windows 95, 98, or NT. If you are not familiar with the Windows interface, consult the Microsoft Windows User Guide for more information.

Equipment Requirements

Computer: PC Pentium, 100MHz minimum, or compatible. At least one unused serial port, COM1 or COM2, one parallel port (LPT1), 5MB hard disk space, and 16MB RAM.

Display: Any supported by MS Windows (Windows 95, 98, or NT).

Operating System: running MS Windows 95, 98, or NT.

WinTesla Application Software (Product Code 8405043).

Diego Application Software (Product Code 8405139).

Software Protection Key (PKD-1) (Product Code 0750018) or FLS-2D (Product Code 0081310).

Phone-specific Service Software Module (Product Code - see phone-specific information).

Mechanical Connections

Caution: Make sure that you have switched off the PC and the printer before making connections.

Caution: Do not connect the PKD-1 key to the serial port. You may damage your PKD-1 key.

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The software controls the phone via Flash Loading Adapter (FLA-38) and RS-232/MBUS Interface (DAU-2T) with a D25-D9 connector connected to the serial port of the PC.

Attach the protection key PKD-1 to the parallel port 1 (25-pin female D-connector) of the PC. When connecting the PKD-1 to the parallel port, be sure that you insert the computer side of the PKD-1 to the PC (male side). If you use a printer on parallel port 1, install the PKD-1 between the PC and your printer cable.

WinTesla Software Installation

Parts Required

From the PAMS web site, enter the following selections, starting from the home page:

Software>Product Specific Service Software>CDMA>Wintesla DCT3 CDMA Service Software (NSD-5)

Note: A floppy disk version also is available from the PAMS web site: WT264.diskettes.zip (complete CDMA Wintesla version) and NSD_W264.diskettes.zip (CDMA dll version). These versions, when unzipped, will create files sized to be placed on multiple floppy disks.

Procedure

Installation steps for new WinTesla DLL

Note: Previous WinTesla installation required.

1. Check the WinTesla Core SW version on the **Help** menu. Select **About** from the drop-down menu.

2. Make sure that you have one of the following WinTesla core SW versions 6.43. If you don't have it installed, read Note 1 which follows below.

3. Download the self-extracting file NSD_W264.EXE to your own workstation. Double-click on the file to extract the actual files and to auto-load the program.

4. Note that it is not necessary to restart your computer.

5. Customer-specific software files are not included with the WinTesla software packages. To get the necessary customer-specific files, download one or more of the flash software packages. For specific instructions, refer to the specific Technical Bulletin releasing flash software for a particular customer / product to be supported. Double-clicking on these packages will self-install the Config file, flash file, PRLs, and PRIs into the appropriate locations.

Note 1: If you are installing WinTesla for the first time in your PC, the complete WinTesla Installation Pack SW for CDMA phones is required. The complete pack includes all other drivers and core modules that are needed to run WinTesla with NSD-5 phones. This software is available from the PAMS web page or may be ordered (Product Code 0081309). For more detailed instructions, refer to the WinTesla User Guide for CDMA using FLS-2D Dongle, document number SGY00139-EN.

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Using Zip Packages for Floppy Disks

1 Download the file (only available from the PAMS web site).

2 Double-click on the file and select **Extract** files.

3 Identify a location for the files to be placed.

4 Several folders are created.

5 Copy the contents of the folders to floppy disks (be sure to label the disks as Disk 1, Disk 2, and so on).

6 Insert Disk 1 and double-click on **Setup**; follow the prompts to complete installation.

Diego Software Installation

System and Dongle Requirements

System Hardware

- IBM-compatible PC with Pentium processor
- At least 8 MB RAM and 8 MB of hard disk space
- One standard COM port (COM1) and one standard parallel port (LPT1) or only the COM port if using FLC-10.
- If you are running Windows 95, make sure that the LPT1 is configured to address 0x0378.

Dongle Type

- FLS-2D

Operating System

- Windows 95 versions: Standard A and B
- Windows 98
- Windows NT
- Windows 2000 Professional Series

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Hardware Part Numbers

Item	Service accessory	Product Code
1	Dongle FLS-2D (dealer functions)	0750130
2	Cable AXS-4	0730090
3	Diego SW package	0774247
4	Flash Loading Adapter FLA-38	0770420
5	Mbus/Fbus Cable XCS-4	0730178

Diego Program Installation

The InstallShield Wizard install program makes installation of the software simple. All the necessary files are bundled into one executable installation package, ensure proper installation.

Software Installation

Step 1:

The installation file will be identified as `Diego_130.exe`. Double-click on this file.

Note: The installation package requires that the system C:\ drive have a minimum of 8 MB available disk space; otherwise, an error dialog box may appear.

Step 2:

(If you already have a version of Nokia Diego installed on your computer and are either updating the version or wish to remove it.) Select the action you wish to perform.

Step 3:

You can either accept the default location for Nokia Diego software (preferred) or specify your own location. Use the **Browse...** button to locate and select the desired destination folder and select your choice. Select the **Next >** button to continue, the **< Back** button to return to the previous dialog, or the **Cancel** button to exit.

Step 4:

Setup status is provided, describing the actions being performed. As the program installation progresses, the status bar updates with *percent complete* information.

Step 5:

When installation is complete, you may either reboot your computer now or later. Please note that the Nokia Diego software tool will not operate until your computer has been rebooted.

For more detailed installation instructions, refer to the Nokia DIEGO User Guide, document number SGY00140-EN. The document is located in the Nokia DIEGO folder created during installation (path = C\Program Files\Nokia Mobile Phones\Nokia Diego for default installation). The document also may be accessed by selecting **Help** from the toolbar

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while the Diego software is running.

Using WinTesla / Diego with NSD-5FX Phones

The WinTesla application "WinTesla.exe" is phone independent. It relies on separate, phone-specific modules to provide communication, menus, and test algorithms.

For each phone type (family), a phone interface module and menu module are required. The modularity of WinTesla allows support for other languages. As a result, one phone type may have one phone interface module and several menu modules, all in different languages.

WinTesla allows the user to select the desired language (if available), and automatically loads the correct phone interface module for the connected phone. When a different phone type is connected, WinTesla loads that phone's interface and associated menus.

Menu Bar

The Service Software package has two menu bar configurations. The first is an abbreviated version that contains the minimum number of menus that allows package configurations when a phone is NOT connected. The second configuration is described here:

The menu bar MUST only contain the following menus for the Service Software package when a phone is connected:

- Product*
- Configure*
- Tuning (not available with FLS-2D)
- Testing (not available with FLS-2D)
- Software (not available with FLS-2D)
- Dealer
- View
- Help*

(* - Always displayed, even if a phone is not connected.)

The menu is divided into sections that are indicated with menu separators. Each section identifies a logical difference from itself and other sections (e.g., between transmitter and receiver). Any items that are required to be added to a menu list will be added to the bottom of the appropriate menu selection list.

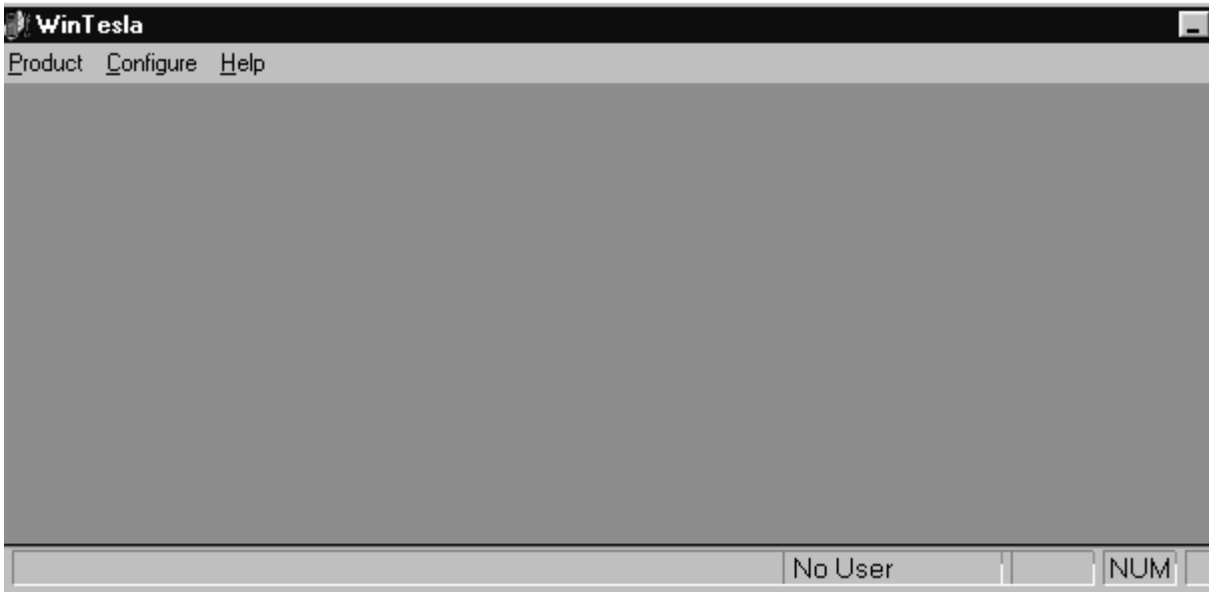
If a new item that is common to two or more phone types is to be added, that menu item will become a common menu item.

The menu lists will use the Microsoft symbol after an item name to indicate that selecting that item will not initiate an operation immediately.

A dialog box will be displayed for the user to select options or type in data and press the **OK** button before the operation is performed.

If WinTesla cannot find the file, op_id.val, which contains the Login IDs, then the **OK** button will not be enabled. Press the **Cancel** button and only the fault logging feature of WinTesla will be deactivated.

WinTesla Screen



The main WinTesla screen (if no phone is attached) is displayed with three menu items at the top of the screen and a status bar at the bottom.

The information on the left of the status bar will be used to provide information when WinTesla is performing tasks: such as reading data from the phone. The status bar also includes the name of the current user.

Getting Started

Setup for BUS type and COM port:

When you have installed the WinTesla core software with PKD–1 drivers and the product specific DLL software, the next step is to tell the software what kind of hardware connection you are using.

1. Select the correct **COM Port**. For example, COM1.

2. Select the **Hardware Type**. If you are using the 3-box setup, then choose *Combox* for hardware type. If you are using the FLS dongle, choose Dau for MBUS.

3. Select the **Media**, For example, MBUS.

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4. Press **Add** to save configuration.

When you start using the WinTesla program with a new phone you should:

Select **New**, then the program starts to scan the phone that has been connected to the PC or;

After the product-specific DLL has been selected, it will be displayed on the bottom of the PC screen. The version and date of the product-specific DLL is also displayed.

Product Menu

New (Ctrl+R)

The 'New' function (which can also be activated by pressing Ctrl+R) is used to scan for a phone when either the automatic rescan option is off or the automatic rescan timer has not expired (see Configure>Options section for automatic rescan).

If the phone type is unrecognized or unsupported by the current WinTesla system, then a warning message will be displayed.

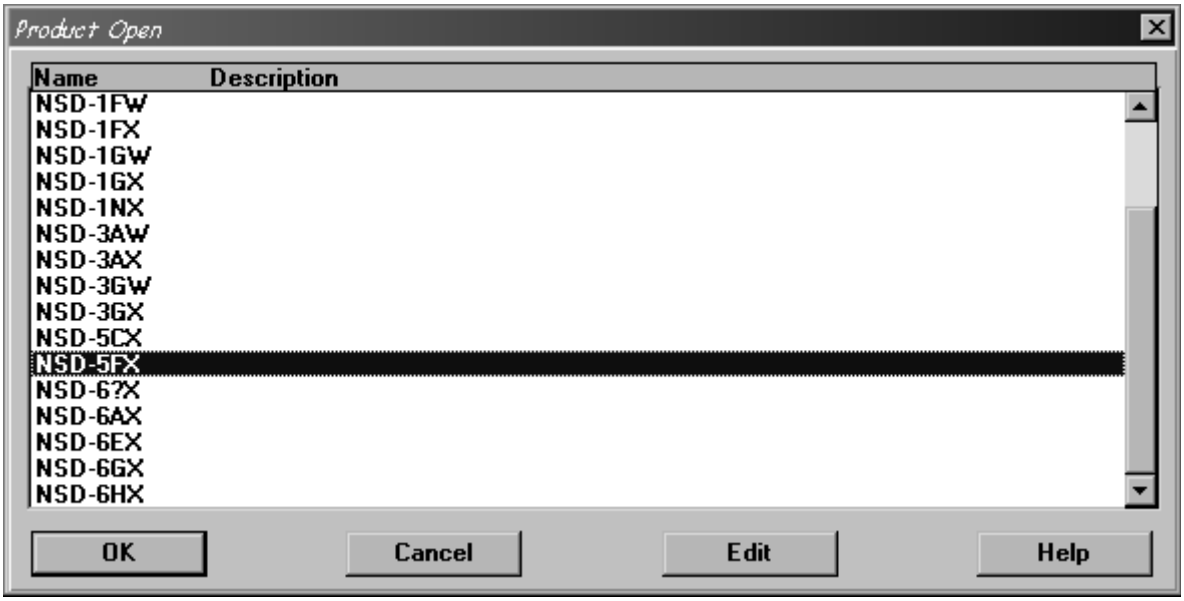
If the phone is changed (with the same phone type only the serial number is changed), the phone will be initialized into local mode. If the phone is changed to a different phone type, the current DLLs are unloaded and new ones are loaded for that phone.

If the Quick/RF Info view is open, the window will be automatically updated.

If the Phone Information view is open, it will be automatically updated.

Open

The 'Open' function allows you to 'force load' a phone interface, even if there is no phone connected to the system.



A dialog box will appear and a list of supported phone types. To select a particular phone, highlight the phone type name and click **OK**.

Clicking on **Cancel** will stop the request and no new phone type will be loaded.

Loading a phone interface will disable the automatic rescan function (see Configure>Options section for automatic rescan).

Initialize

Activation Status Bar Text

Alt, P, I Opens a submenu for the Normal Mode and the Local Mode.

Normal Mode

Activation Status Bar Text

Alt, P, N Initializes the phone to normal (cellular) mode F5.

When the normal mode has been activated or the program has been started, self–test results will be gathered from the MCU. If any fault was found in the tests, an error message is shown. If the normal mode has been set successfully (no self–test error has been found), and paging listening has been started, the used AFC value is requested from MS.

Initialization routine checks the phone's cellular type and, if it is unsupported, the phone application unloads the DLLs.

The After Market Services SW automatically sets the MS state to normal mode when needed.

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If the phone identification view is open, the window will be updated automatically. Also, if the RF Information Window is open, it will be updated to quick info view.

Local Mode

Activation Status Bar Text

Alt, P, L Initializes phone to local mode

Shift + F5

Selection will change the MS state to local. When the user selects item from Testing or Tuning menus, the After Market Services SW software will automatically change the MS state to local.

The After Market Services SW automatically sets the MS state to normal mode when needed.

Also, if quick info view is open, it will be updated to RF Information view.

Faultlog

Not in use at this time.

FLS-x Remote Update

FLS-X Remote Update is used for updating the flashing licenses contained in the FLS-X dongle.

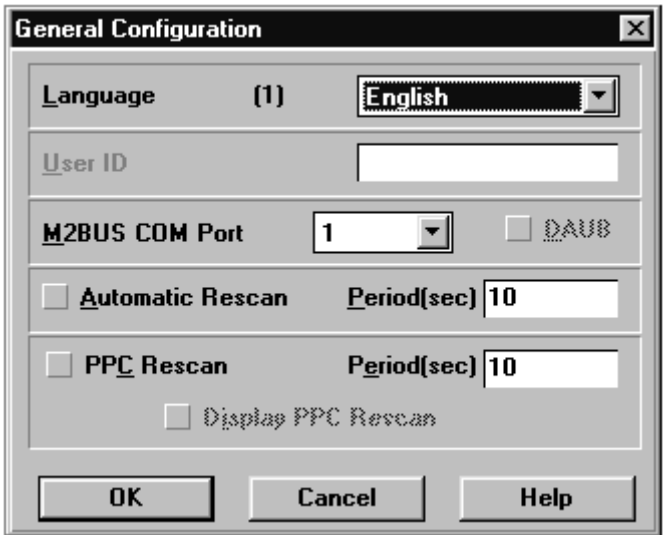
Exit (Alt+F4)

Selecting this option will shut down the WinTesla program.

Configure Menu

The Configure menu allows you to set up such items as directory paths, user interface language and faultlog options.

Options



Language

This option allows you to change the language used in the WinTesla application.

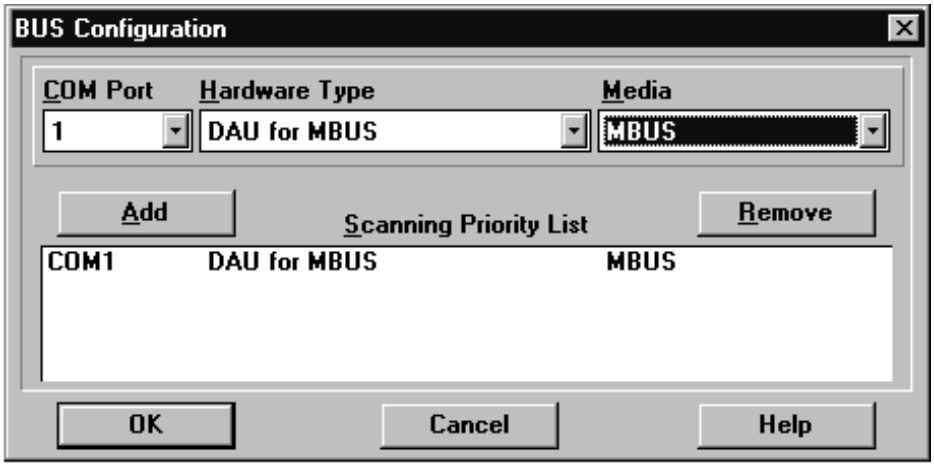
User ID

Allows the user ID to be entered if the user's name is setup in the opt_id.val (validation) file.

M2BUS COM Port

This option allows you to select which communications port the phone is to be connected. The change will take place immediately after pressing the **OK** button.

Buses



Setup for BUS type and COM port:

When you have installed the WinTesla core software with PKD–1 drivers and the product specific DLL software, the next step is to tell the software what kind of hardware connection you are using.

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1. Select the correct **COM Por**t. For example, COM1.

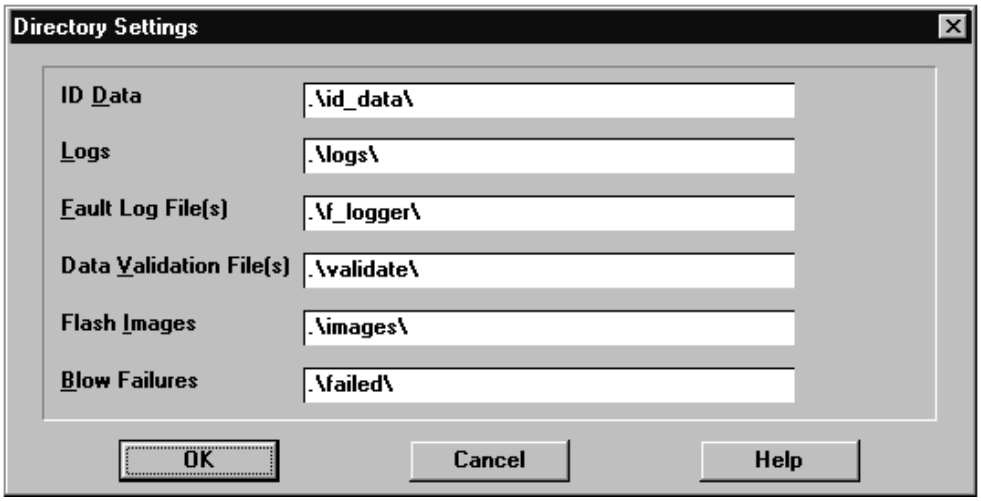
2. Select the **Hardware Type**. For FLS-2, select DAU for MBUS. In case of 3–box flash concept, select Combox for MBUS.

3. Select the **Media**, For example, MBUS.

4. Press **Add** to save configuration.

Directories

This function allows you to organize your data into different directories.



The directories already exist when the WinTesla core software is installed. If an invalid directory is entered, then an error message will be displayed.

The use of a backslash ('\') at the end of the directory name is optional. Clicking on the **OK** button will save your changes.

Faultlog

Not in use at this time.

Label Printing

Only those authorized to print labels and who have a label printer and dongle will use this option.

FLS-x

This dialog box can be used to see how many licenses are left on a FLS-2D dongle or to uncheck the FLS check box if using the 3-box setup.

Software Menu

Easy Flash

Easy flash is used at POS, using customer-specific software bundles.

Program ESN

Program ESN is only used by authorized personnel at certain locations to program an ESN of a phone whose part containing the ESN was replaced.

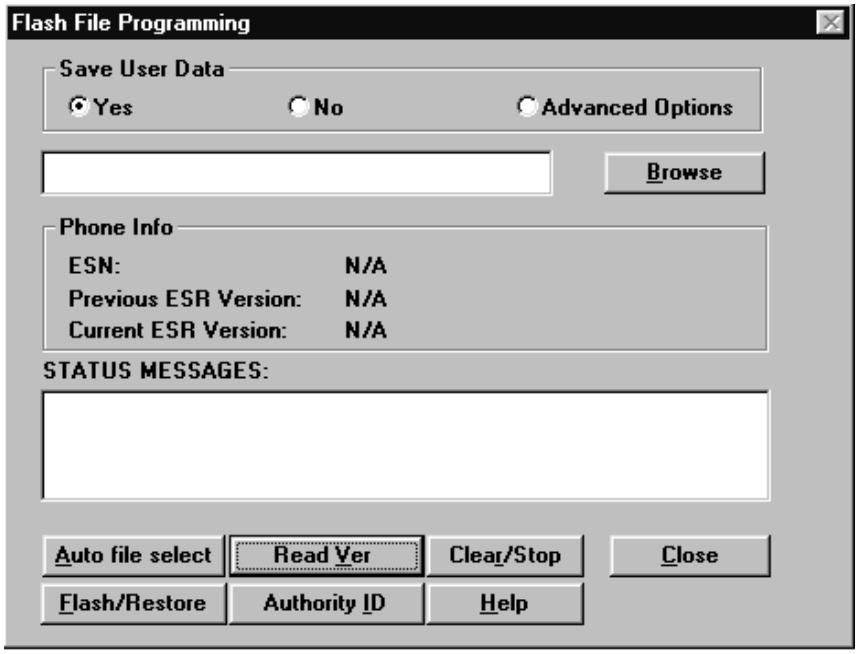
MIN Lock

MIN lock is used to read the min lock of a phone that has min lock in order to do the repair. Used by repair centers only!

Flash File Programming

This command is used for flashing new software into the phone. While flashing the phone, user is shown the flashing progress towards completion.

Status dialog box is shown during flashing. After the phone is flashed Authority ID is set to the phone



Flash File Programming

The **Flash Phone** dialog box contains the following items:

Save User Data:

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This option decides if user data (end user settings) will be kept.

Yes The user data will be saved (recommended).

No Select if there is no need to save user data (new phone).

Advanced Options Select only in special cases.

BUTTONS:

Auto File Select

WinTesla will find a correct image for a connected phone according to its hardware ID and product code.

Browse

Click this button to select a flash image.

Read Ver

Displays software version of the phone.

Clear/Stop

Clear the flash window. Stops saving user data during flashing.

Flash/Restore

Flashing a software into the phone or restore data to a phone.

Authority ID

Programs the Authority ID. By default, Authority ID is programmed automatically after flashing. There is no need to do it manually.

Close button

Closes the dialog button and does not start flashing.

Procedure to Flash a Phone

1. Decide Which Options to use

   There are three options: Yes, No, and Advanced Options. *Yes* will keep all the user data. *No* will erase all user data. *Advanced Options* will let you decide what kind of data you want to keep during flash.

2. Select Flash image (or let WinTesla decide for you)

You can select a flash file by clicking the **Browse** button. Or, you can leave the file name field empty and let WinTesla decide which flash image to use. Please note this requires a phone specific .cfg file be put into .../misc directory.

3. Flash

FAQs:

How to select flashing device?

Go to Configure Menu/FLS–X and check *Use Fls–x for POS*, otherwise uncheck it.

If the phone is totally dead, go to the Advanced Options and select Flash Dead Phone. Then flash the phone.

What if error occurs during the user data saving?

No damage is done to your phone at this stage. So go ahead and flash it again.

What if error occurs during flashing?

If the phone is dead after dead phone flash, you must re-tune the phone.

What if error occurs after EEPROM resetting?

This means that the EEPROM data is damaged. But if you selected *Yes* to Save User Data, all the user data is saved on the disk. Check your phone. If the phone is dead, select Flash Dead Phone, then flash it to get the phone to work. Restore all the data without flash. To do this, go to advanced options, and select Restore Data Only.

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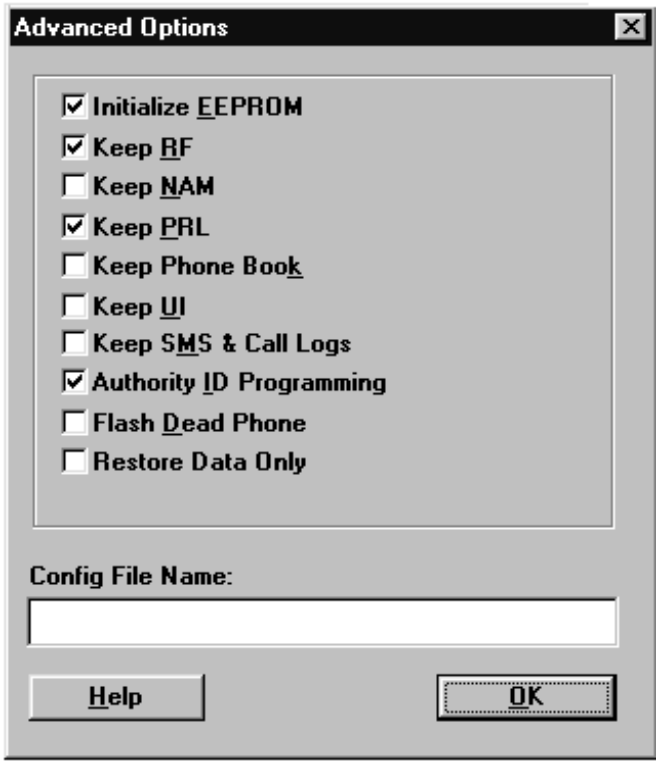
Advanced Options



Initialize EEPROM

This option will cause phone data resetting to factory value, if no other user data is selected to keep (e.g., Keep RF). If one of the user data options is selected to Keep..., after flashing and resetting phone data to factory value, the data will be loaded back.

Keep RF

This option will keep the RF tuning data even if *Initialize EEPROM* is selected.

Keep NAM

This option will keep the NAM data even if *Initialize EEPROM* is selected.

Keep PRL

This option will keep the PRL even if *Initialize EEPROM* is selected.

Keep Phone Book

This option will keep the Phone book (SCM) even if *Initialize EEPROM* is selected.

Keep UI

This option will keep the UI settings even if *Initialize EEPROM* is selected.

Keep SMS & Call Logs

This option will keep the SMS (short messages) and Call Logs even if *Initialize EEPROM* is selected.

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Authority ID Programming

This option allowss the Authority ID to be programmed after flashing.

Flash Dead Phone

Select only if a totally dead phone is involved. When this option is on, all other options except Authority ID Programming will be ignored.

Restore Data Only

If an error happens during the flashing, WinTesla will quit the flashing session. Saved data will not be removed and can be restored by selecting this option. All other choices need to be kept the same as that in the flash session.

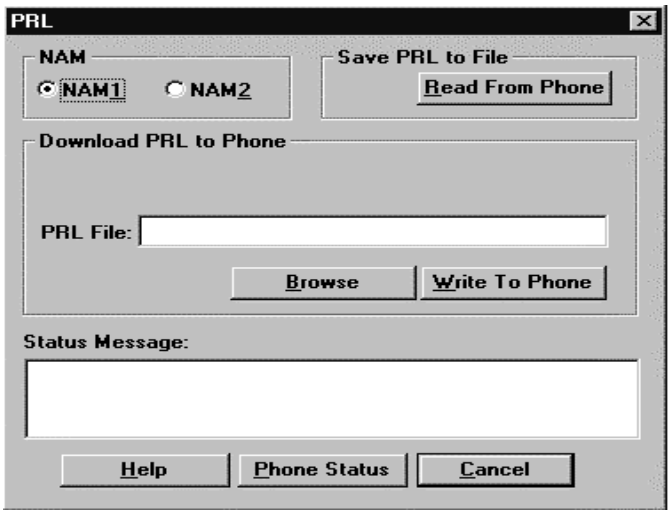
Default option setting

This option is recommended. Especially when you are not familiar with all the options.

Dealer Menu

PRL

(Preferred Roaming List) Makes it possible to load a new PRL to the phone.



Subscribe(NAM)

Makes it possible to program the phone number (NAM) to the phone. It also includes other settings such as system ID (SID) and paging channel settings.

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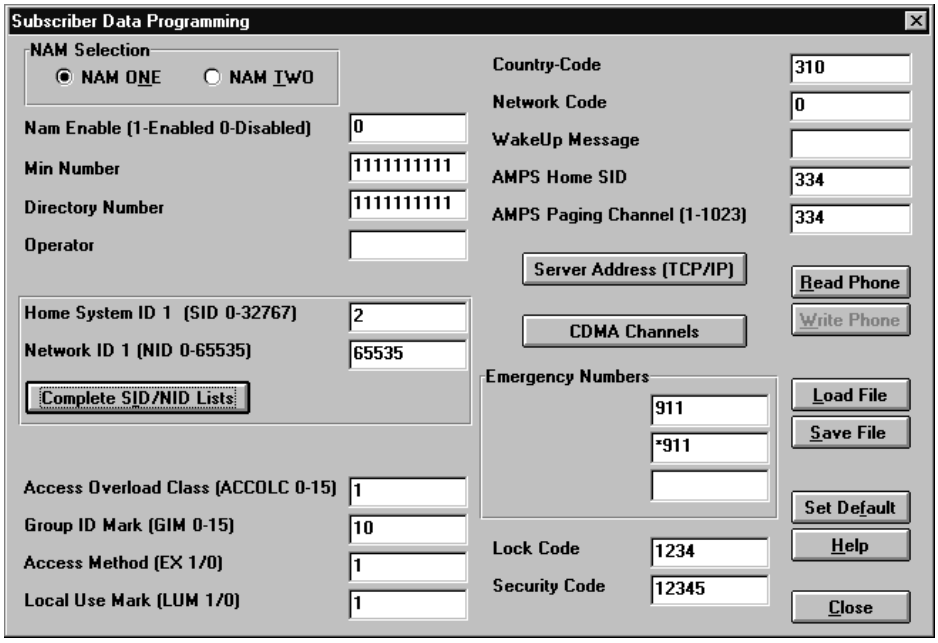

NAM Programming may be done using the phone keypad. First, enter the NAM programming mode accessible by keypad entry (*3001#12345#). The limits of the values are mentioned in brackets.

Note: The program does not support fields that are not enabled.

Buttons:

NAM Selection

Selects NAM contents to be displayed.

Load File

Prompts user to select a file containing NAM information.

Save File

Allows user to save screen contents to a file.

Read File

Reads phone contents to screen.

Write Phone

Writes contents of the screen to the phone.

Set Default

Sets selection as the default.

Phone Book

This function allows the user to create, edit, or load the phone book to the phone or to download from the phone to a personal computer.

A-Key Programming

This option allows you to program the Authentication Key (A-Key) of the phone. The A-Key can never be read from the phone -- only programmed to the phone by overwriting the previous value.

To program the A-key, a valid A-Key plus a valid checksum must be entered as one complete number.

- Valid A-Key number = 6 to 20 digits (e.g., XXXXXXXXXX)

- Valid checksum = 6 digits (e.g., YYYYYY)

Example:

A-Key entry would be XXXXXXXXXXYYYYYY

Buttons:

Write Selected

Writes the highlighted selection to the selected NAM in the phone if the A-Key is valid. Otherwise, an error message is displayed.

Write All

Writes both the A-Key numbers to the corresponding NAM of the phone if the A-Key is valid. Otherwise, an error message is displayed.

Calling Card

Calling Card allows you to enter your calling card information into the phone for use when making a calling card call.

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Warranty Information

This menu is for service purposes. It includes, for example, warranty information and manufacturing date reading.

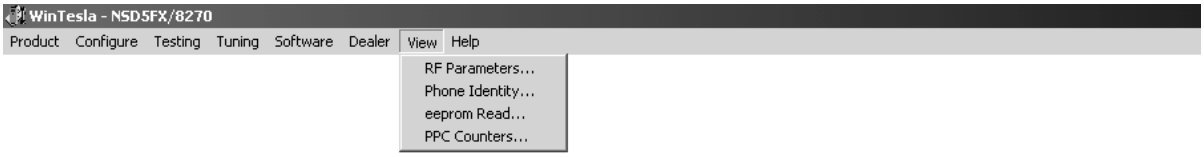
Download Bitmap

Allows you to download your own bitmap as long as it is the right size and pixels.

User Data Transfer

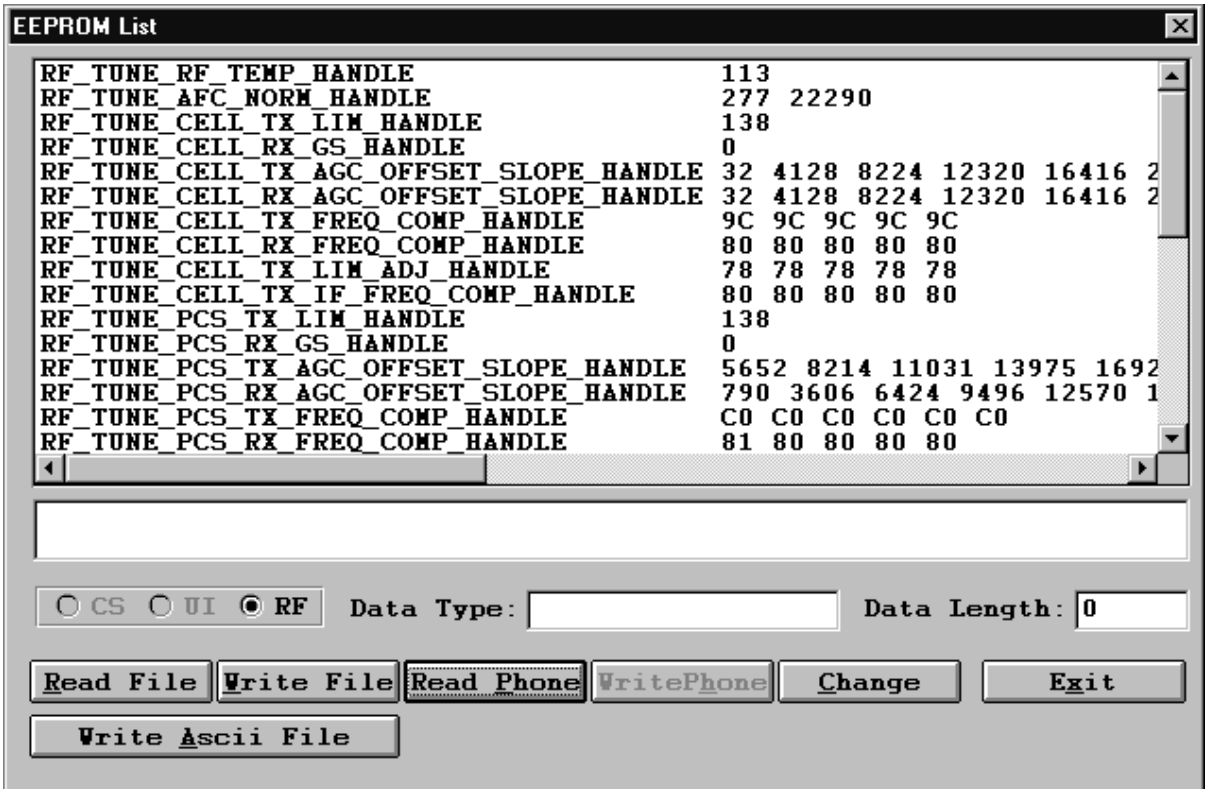
This item is used to switch user data from one phone to the next. You hook the phone up and click on read. It reads all the data. Then, hook the new phone up and click on write — all the data will be written to the new phone.

View Menu

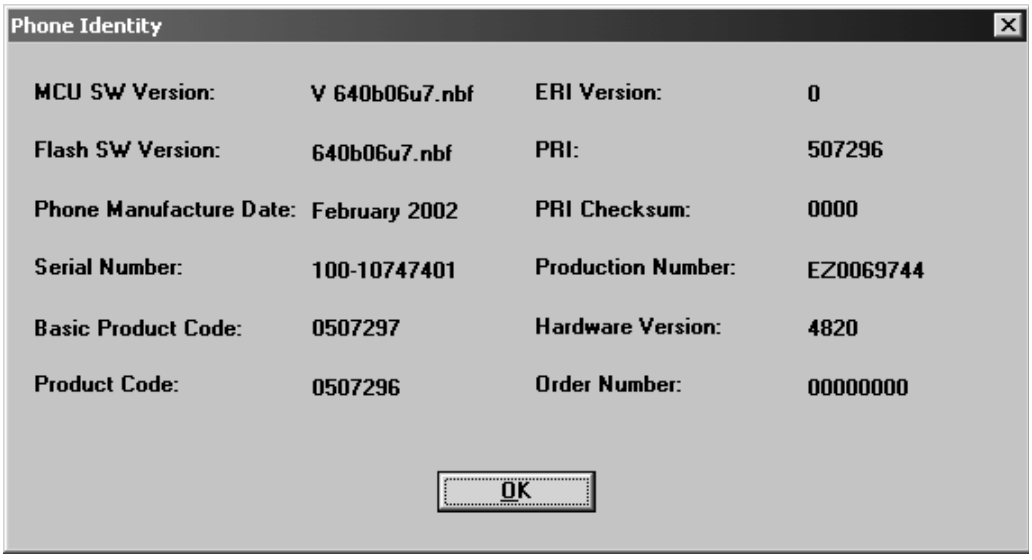


RF Parameters

(used only for Special Service purposes).



Phone Identity



By using the menu, the user can read:

- Phone flash software version information
- Serial number (ESN)
- Product Code
- Hardware version
- Ordering number (if used)

eeprom Read

Eeprom Read allows you to enter an eeprom handle and read it, edit it, and write it.

PPC Counters

The PPC Counters dialog box enables you to read the counters from a phone and save them to a file.

Help Menu

The Help User Interface is the standard Windows help tool named WinHelp. The context-sensitive help is activated with the <F1> key. Help also contains "Using Help", which describes how to use the Help facility. Refer to the Windows manual for detailed description of Windows Help.

Mouse Cursors

The standard Windows pointer is used as the mouse cursor.

During time-consuming tasks (e.g., communication to the phone), an hourglass will be shown, indicating the user that a task is in progress. The application uses the hourglass cursor to inform the user that the application has taken control and any actions by the

user will be ignored.

When a function is initiated, the hourglass will be displayed and when the function has finished, the mouse pointer will return to normal.

Reserved Keys

The following Hot Keys and Short Cut keys are reserved either as Microsoft standard keys or as part of the Common Look and Feel.

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Short Cut Function Keys

Key	Description	Defined by
F1	Context Sensitive Help	Microsoft
F5	Normal Mode	NMP
Shift+F5	Local Mode	NMP
F9	Activate Faultlog	NMP
F10	Goto Menu Bar	Microsoft
Ctrl+F4	Close Active Window	Microsoft

Alt Hot Keys

Key	Description	Defined by
Alt+F4	Exit Active Application	Microsoft
Alt+H	Help	Microsoft

Ctrl Hot Keys

Key	Description	Defined by
Ctrl+N	File – New	Microsoft
Ctrl+O	File – Open	Microsoft
Ctrl+P	File – Print	Microsoft
Ctrl+R	Product – New	NMP

Shift Hot Keys

Key	Description	Defined by
Shift+F5	Local Mode	NMP

Key Strokes

Key	Description	Defined by
Alt+P	Product Menu	NMP
Alt+P,N	New	NMP
Alt+P,O	Open	NMP
Alt+P,C	Close	NMP
Alt+P,I	Initialize Pop-Up	NMP
Alt+P,I,N	Normal Mode	NMP

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Key	Description	Defined by
Alt+P,I,L	Local Mode	NMP
Alt+P,F	Faultlog Pop–up	NMP
Alt+P,F,A	Activate Faultlog	NMP
Alt+P,F,E	Edit Faultlog	NMP
Alt+P,X	Exit Application	NMP
Alt+C	Configure	NMP
Alt+C,O	Options	NMP
Alt+C,D	Directories	NMP
Alt+C,S	Buses	NMP
Alt+C,F	Faultlog	NMP
Alt+C,N	FastNAM	NMP
Alt+C,G	GPIB instruments (disabled)	NMP
Alt+C,M	MPWS Swap	NMP
Alt+C,L	Label Printing	NMP
Alt+C,F	Frequency Planning	NMP
Alt+C,1	FLS–1	NMP
Alt+E	Testing Menu	NMP
Alt+E,D	ADC Readings	NMP
Alt+E,P	PDM Register Control	NMP
Alt+E,A	AMPS/Baseband Tests	NMP
Alt+E,C	CDMA Tests	NMP
Alt+E,M	Enable AMPS Mode Troubleshoot-ing	NMP
Alt+E,E	Enable CELL Mode Troubleshooting	NMP
Alt+E,S	Enable PCS Mode Troubleshooting	NMP
Alt+E,T	Disable Mode Troubleshooting	NMP
Alt+T	Tuning Menu	NMP
Alt+T,A	AMPS	NMP
Alt+T,8	800 CDMA	NMP
Alt+T,1	1900 PCS	NMP
Alt+S	Software Menu	NMP
Alt+S,F	Flash	NMP
Alt+D	Dealer Menu	NMP

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Key	Description	Defined by
Alt+D,L	PRL	NMP
Alt+D,N	Subscribe(NAM)	NMP
Alt+D,K	Phone Book	NMP
Alt+D,I	SID/NID Programming	NMP
Alt+D,F	Factory Value Set	NMP
Alt+D,A	A–Key programming	NMP
Alt+D,C	Calling Card	NMP
Alt+D,W	Warranty Information	NMP
Alt+D,S	Change SPC	NMP
Alt+D,B	Download Bitmap	NMP
Alt+V	View Menu	NMP
Alt+V,P	Phone Identity	NMP
Alt+H	Help Menu	Microsoft
Alt+H,I	Index	Microsoft
Alt+H,G	General Help	Microsoft
Alt+H,U	Using Help	Microsoft
Alt+H,A	About WinTesla	NMP

Dialog Boxes

The Service Software application uses many different dialog boxes. Dialog boxes are used to display data and prompt the user for input.

Dialog boxes are opened from menus or with shortcut keys. Dialog boxes have different properties but some features are common.

All service dialog boxes must be modal; that is, the user will not be able to start another operation without first closing the present dialog box.

All dialog boxes will contain the following entities:

- Help button
- Title bar
- At least one button other than Help
- Application Control–menu button

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Common Dialog Boxes

This section describes the common dialog boxes used in the Service Software package, and the context in which they will be used.

Note Message Box

When the user has made an illegal selection, a Note Message Box dialog will be opened and message text is displayed. The message box is also opened when the program has some information for the user. The size of the dialog box may vary. An information dialog box is recognized by the exclamation point–icon.

The dialog box will also contain an **OK** button and a **Help** button.

OK button (default key):

Acknowledge displayed information and continue. The dialog box is closed after selection.

Help button (Alt+H):

Opens context-sensitive help (same as F1 key).

Query Message Box

Confirmations and questions are asked in a query message box. A query dialog box is recognized by the ?–icon.

The dialog box will also contain a **Yes** button, a **No** button, and a **Help** button.

Yes button (Alt+Y or Y) (default key):

Accepts confirmation or question.

No button (Alt+N or N):

Denies confirmation or question.

Help button (Alt+H):

Opens context-sensitive help (same as F1 key). The buttons may also be labeled **OK** and **Cancel**. The operation of these buttons is the same as in the Note dialog box.

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Error Message Box

Error message dialog boxes use the Stop–icon. When a "Stop"–dialog box is shown, the current operation is terminated.

The dialog box has a description about the failed operation and reason. Pressing F1 (Help) application opens the appropriate help topic that gives information about recommended actions.

The dialog box will also contain an **OK** button and a **Help** button.

OK button (default key):

Acknowledges displayed information and terminates current operation. The dialog box is closed after selection.

Help button (Alt+H):

Opens context-sensitive help (same as F1 key).

Custom Dialog boxes

All custom dialog boxes will contain the predefined buttons as defined below in the section – Buttons. However, it is recognized that features may require additional button types, but the addition of these nonstandard buttons should be carefully considered to minimize any inconsistencies between implementations.

The buttons will be positioned down the right–hand side of the dialog boxes. The default action will be **OK**, except where that default action could result in an irretrievable failure.

All tuning dialogs that contain tuning results will display the old tuned data read from the phone before the tuning was performed, as well as the newly tuned data. List boxes will be used to display lists of data, such as tuning data, test results, etc. The use of Radio buttons should be limited and carefully considered. The use of radio buttons defines the number of possible choices available to the user, which may be acceptable for one project, but not for another.

Buttons

All buttons must be the Microsoft-style of buttons. In general, the default button will be the *Action* button, the **Close** button or the **Yes** button, but this will depend on the context of the dialog box with which the button is associated.

(Action) button:

Accepts and validates entered settings and values and closes the dialog. If the values have not been changed, then no action will be taken. The status bar will reflect the sta-

tus. The user should only be queried, if the settings or values accepted will overwrite data that CANNOT be reproduced. A grayed **OK** button indicates that settings selected by the user are not acceptable.

Close button:

Closes the current dialog box. Does not send or store anything and closes the dialog. The **Close** button is only used for dialogs that do not set or change any data.

Cancel button (Esc):

Cancels operation. Does not send or store anything and closes the dialog box. A grayed **Cancel** button indicates that it is not possible to quit from this dialog box.

Yes button (ALT+Y or Y):

Replies Yes to a question asked of the user.

No button (ALT+N or N):

Replies No to a question asked of the user.

Help button (ALT+H):

Opens context-sensitive help (same as F1 key).

Reporting Status

The status bar will be used to report the present status to the user. When a feature is initiated, the status bar will be updated with a brief description of the function. The status bar will also be updated at key points in a time-consuming function.

If an error is to be reported to the user, it will be displayed in the status bar as well as displayed in a common error dialog box. This will mean the user is not delayed from progressing to the next operation unless an error occurs, in which case, the user will have to acknowledge the error by pressing the **OK** button.

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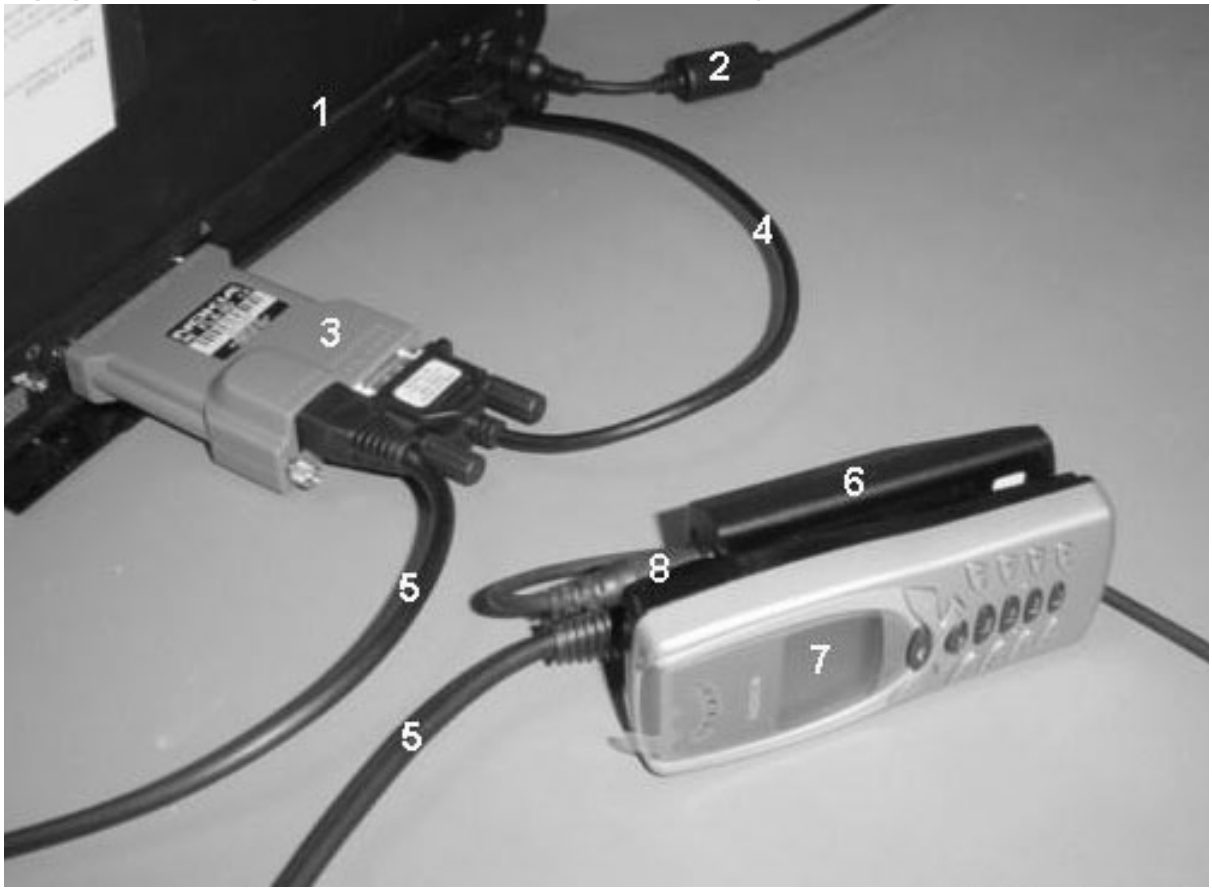
Service Setups

Equipment Setup for POS (Point of Sale) Flashing



Item	Service Accessory	Type	Product Code
1	Computer	n/a	n/a
2	Power cord to computer	n/a	n/a
3	Dongle	FLS-2D	0081310
4	Serial Cable	AXS-4	0730090
5	Mbus/Fbus Cable	XCS-4	0730178
6	Flash Loading Adapter	FLA-38	0770420
7	NSD-5FX transceiver	n/a	0507296
8	Fast Travel Charger	ACP-9U	0675151

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Flash Concept for (for Central Service use only)

Item	Service Accessory	Type	Product Code
1	Power cable	FLC-2	0730185
2	Mbus/Fbus cable	XCS-4	0730178
3	Flash Loading Adapter	FLA-38	0770420
4	Flash Loading Adapter	FLA-7	0080326
5	Flash Security Box	TDF-4	0770106
6	Flash Prommer	FPS-4	0081275

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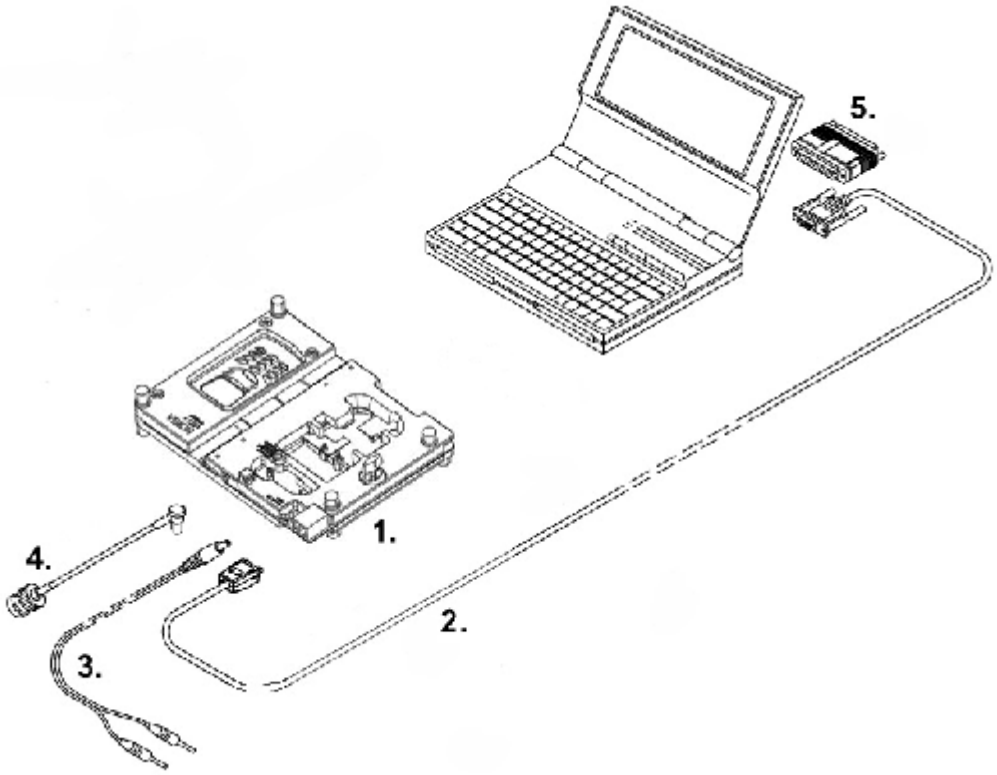
Tuning With Covers Off - Using Module Fixture MJS-24



Item	Service Accessory	Type	Product Code
1	Module Fixture	MJS-24	0770227
2	Service MBUS/FBUS Cable	DAU-9S	0730108
3	DC Cable	PCS-1	0730012
4	RF Cable	XRS-4	0730221
5	Software Protection Key	PKD-1	0750018

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Appendix 1, Vocabulary

Abbreviation	Description
ADC	Analog to Digital Converter
AFC	Automatic Frequency Control
AGC	Automatic Gain Control
ASIC	Custom circuit which for instance controls communication between MCU and DSP (Application–Specific Integrated Circuit)
BBF-2	Flash Loading Adapter
CLF	Common Look and Feel
CLI	Calling Line Identification
COBBA	Common Base Band Analog
DAC	Digital to Analog Converter
DATA	DATA interface module
DAU–9S/P	MBUS/FBUS cable
DLL	Dynamic Link Library
DSP	Digital Signal Processor which controls radio interface and speech coding/decoding
EEPROM	Memory for adjustment parameters (Electrically Erasable and Programmable Read Only Memory)
ESN	Electrical Serial Number
FBUS	Fast serial bus
GPIB	General Purpose Instrument Bus, also know as HPIB. Specified by IEEE 488.2.
IMEI	International Mobile Equipment Identification code
IR	Infra–Red transmitter
M2BUS	Serial communication bus which can be connected to accessory devices and test PC

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MCU	Master Control Unit processor
MDI	MCU DSP Interface; message interface via ASIC registers
ME	Mobile Equipment
MIN	Mobile Identification Number – The 34–bit number that is a digital representation of the 10–digit number assigned to a mobile station
MODAL	A modal dialog box requires the user to complete (dialog box) interaction within a dialog box, and close it before continuing with any further interaction outside the window.
MODELESS	A modeless dialog box allows the user to interact (dialog box) with other windows and applications.
MS	Mobile Station
NAM	Number Assignment Module – A set of MIN/IMSI–related parameters stored in the mobile station
NID	Network Identification – A number uniquely identifying a network within a cellular system
PCI	Phone Controlling Interface SW for PC
PKD–1/1NS/1CS	Hardware protection key (DESKEY DK2) for protecting service software from illegal copying. The software will not work without this key.
PRL	Preferred Roaming List – A list of system identification numbers that identify systems that provide service to the mobile station at discounted roaming charges
RF	Radio Frequency
RSSI	Received Signal Strength Indication
RTC	Real Time Clock
SID	System Identification – A number uniquely identifying a network within a cellular system
SW	Software
TDF–4	Flash security box
Tesla	Acronym – stands for TEst and Service Locals Application.

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UI	User Interface

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